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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,372	01/02/2001	J. Robert Sims III	10980039-2	2712

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P. O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

PORTKA, GARY J

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 03/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.
09/753,372

Applicant(s)
Sims, III et al.

Examiner
Gary J. Portka

Art Unit
2187



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Nov 14, 2001
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 35-40 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 35-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

1. Claims 1, 8-10, 15, 20, and 35 were amended, claims 32-34 were canceled, and claims 38-40 were added by Applicant's amendment. Claims 1-24 and 35-40 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

3. Claims 1-6, 9-10, 12-19, 21-22, 24, and 35-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Atsatt et al., U.S. Patent 5,983,309.

4. As to claims 1 and 15, Atsatt discloses a *system/method of defect management, comprising:*

a. *User area parameter, and means for providing it, defining a user data area on the media (#LBA_R 63, see Figures 5 and 6, also Figures 16A and 16B, where #LBA_R is shown as 26 for the zone 0 shown in Figure 16A; see column 5 lines 31-41, column 9 lines 15-17, column 17 line 66 to column 18 line 3);*

b. *Replacement area parameter, and means for providing it, defining a replacement area on the media (#Slip_R 62, see Figures 5 and 6, also Figures 16A and 16B, where #Slip_R is shown as 6 for the zone 0 shown in Figure 16A; see column 5 lines 31-41, column 9 lines 12-14, column 18 lines 3-4, column 20 lines 11-14); where the replacement area may be null (since the field*

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may be set to zero), and *where the two parameters are selected to determine a distributed sparing configuration and defect management* (see column 4 lines 8-9, column 9 lines 26-29, column 13 lines 23-30, and Figures 12B and 13A, in particular, at boxes 163 and 168; in non-recording zone based sparing the two parameters above, #LBA_R and #Slip_R, as well as Cslip, allow the setting up of sparing regions across zones as desired).

5. As to claims 2 and 16, Atsatt discloses the defect list including information identifying each independently accessible section of user data replacement area (DDT 40, Figure 3, see column 7 lines 40-42, 48-57, and column 7 line 63 to column 8 line 8).

6. As to claims 3 and 17, Atsatt discloses categorizing the sections of the replacement area as to use in replacing, as the status field 31 (see column 7 lines 63-67).

7. As to claims 4 and 18, in Atsatt the categorizing mentioned with regard to claim 3 above includes information regarding defective user data section not recorded within the replacement area (status field 31).

8. As to claim 5, in Atsatt chaining is prevented as recited since consecutive defects require only one entry (see column 8 lines 2-6).

9. As to claims 6 and 19, in Atsatt discloses the recited conditions for selection of user data/replacement parameters causing plural equal size zones (considering the “sparing regions” at column 5 lines 31-41, and column 13 lines 23-30 as the recited zones).

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10. As to claims 9-10 and 21-22, in Atsatt, as is apparent from Figure 16A, and because reassigned LBAs may be designated as desired (from column 8 lines 40-43), either area may be disposed on the media first.

11. As to claims 12 and 24, the logical address hierarchy with omission of defective physical addresses, and affect on subsequent media sections, is disclosed in Atsatt (see column 7 lines 48-57 and column 8 lines 1 and 14-22).

12. As to claim 13, in Atsatt the defect list identifies defective sections and omits them from the logical address hierarchy (see column 8 line 1).

13. As to claim 14, in Atsatt the omission of defective physical addresses is in single user data sections (LBAs, see column 7 lines 48-57 and column 8 lines 1 and 14-22).

14. As to claim 35, Atsatt discloses a *method for defect management for block addressable media, comprising:*

a. *Providing a spare interval parameter, establishing number of blocks of user data area on the media (#LBA_R 63, see Figures 5 and 6, also Figures 16A and 16B, where #LBA_R is shown as 26 for the zone 0 shown in Figure 16A; see column 5 lines 31-41, column 9 lines 15-17, column 17 line 66 to column 18 line 3);*

b. *Providing a spare length parameter, establishing number of blocks of user sparing area on the media (#Slip_R 62, see Figures 5 and 6, also Figures 16A and 16B, where #Slip_R is shown as 6 for the zone 0 shown in Figure 16A; see column 5 lines 31-41, column 9 lines 12-14, column 18 lines 3-4, column 20 lines 11-14); where the number of blocks of sparing area may be*

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zero (since the field may be set to zero), and *where the two parameters are selected to determine a distributed sparing region irrespective of physical zones* (see column 4 lines 8-9, column 9 lines 26-29, column 13 lines 23-30, and Figures 12B and 13A, in particular, at boxes 163 and 168; in non-recording zone based sparing the two parameters above, #LBA_R and #Slip_R, as well as Cslip, allow the setting up of sparing regions across zones as desired, and thus are selectable to determine sparing regions irrespective of the media zones), *maintaining a defect list including information identifying each block of user sparing area* (DDT 40, Figure 3, see column 7 lines 40-42, 48-57, and column 7 line 63 to column 8 line 8), *wherein the list includes information regarding status of each block* (status field 31, see column 7 lines 63-67).

15. As to claim 36, Atsatt discloses information of defective block that has not been recorded to replacement area, as the status field 31 (see column 7 lines 63-67).

16. As to claim 37, the logical address hierarchy with omission of initially determined defective physical addresses, and affect on subsequent media sections, is disclosed in Atsatt (see column 7 lines 48-57 and column 8 lines 14-22).

17. As to claims 38 and 40, in Atsatt the sparing configuration, and selection of user and replacement area parameters, is determined irrespective of geometric arrangement due to physical structure, as described with regard to claim 35.

18. As to claim 39, the selection of spare interval and length parameters define defect management for a particular use of the media (inherent).

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Allowable Subject Matter

19. Claims 7-8, 11, 20, and 23 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

20. Applicant's arguments filed January 4, 2002 have been fully considered but they are not persuasive. Applicants have argued that #Slip_R of Atsatt is not a replacement area or spare length parameter, instead that it only defines an amount of slipped sectors in a sparing region, which is not usable as replacement or sparing area. Examiner disagrees. Atsatt controls "slip" caused by defects by dispersing sparing regions on the media; a "sparing region" is "a region of valid data sectors followed by a group of spared sectors" (column 5 lines 33-41). The Slip field indicates sectors "reserved for replacing defective sectors" and those already defective (column 8 lines 14-18). The number of slipped sectors per sparing region is indicated by #Slip_R (column 9 lines 12-14), which if no sectors are defective precisely indicates sectors available for sparing or replacement, as recited.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the

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date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

22. Any inquiry concerning this communication from the examiner should be directed to Gary J. Portka at telephone number (703) 305-4033. The examiner can normally be reached on weekdays from 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Do Yoo, can be reached at (703) 308-4908.

Any response to this final action should be mailed to (or faxed as provided below):
Box AF
Commissioner of Patents and Trademarks
Washington, D.C. 20231

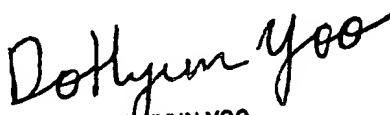
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Fourth Floor (Receptionist).

The fax phone number for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238	(After Final communications)
(703) 746-7239	(Official communications)
(703) 746-7240	(Status inquiries, draft communications)

Any inquiry of a general nature relating to this application or proceeding should be directed to the Group receptionist, whose telephone number is (703) 305-3900.

GJP
Gary J. Portka
Patent Examiner
March 4, 2002


DO-HYUN YOO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100